

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING

To:  
PARK, Jang-Won

200, Nonhyun-Dong, Kangnam-gu, Seoul 135-010, Republic  
of Korea

431

## PCT

WRITTEN OPINION  
(PCT Rule 66)

Applicant's or agent's file reference  
KAIST/021118

Date of mailing  
(day/month/year) 27 FEBRUARY 2004 (27.02.2004)

REPLY DUE within 2 months from  
the above date of mailing

International application No.  
**PCT/KR2002/002033**

International filing date (day/month/year)  
31 OCTOBER 2002 (31.10.2002)

Priority date(day/month/year)  
22 FEBRUARY 2002 (22.02.2002)

International Patent Classification (IPC) or both national classification and IPC  
**IPC7 C12N 15/63, C12N 15/03**

Applicant

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY et al

1. This written opinion is the first (first,etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

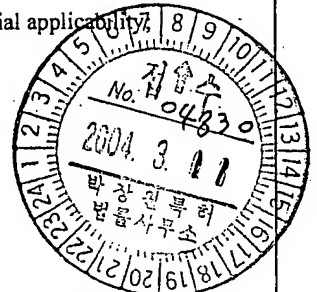
When ? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d)

How ? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3  
For the form and the language of the amendments, see Rules 66.8 and 66.9

Also For an additional opportunity to submit amendments, see Rule 66.4  
For an examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis  
For an informal communication with the examiner, see Rule 66.6

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 12 JUNE 2004 (12.06.2004)



Name and mailing address of the IPEA/KR



Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

Authorized officer

LEE, CHUNG HO



# WRITTEN OPINION

International application No.

PCT/KR2002/002033

## I. Basis of the opinion

### 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☒ contained in the international application in printed form.
- ☒ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☒ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☒ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheet/fig \_\_\_\_\_

### 5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

# WRITTEN OPINION

International application No.

PCT/KR2002/002033

## V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	
	Claims	
Inventive step (IS)	Claims	1 - 4
	Claims	
Industrial applicability (IA)	Claims	
	Claims	

### 2. Citations and explanations

Reference is made to the following documents:

D1: Nucleic Acids Res. (Chatterjee P.K. and Coren J.S.); vol.25(11), pp.2205-2212 (1997.06.01.)

D2: J. Mol. Biol. (Sternberg N. and Cohen G.), vol.207(1), pp.111-133 (1989.05.05.)

#### I. Inventive Step

본원 특허청구범위 제1항 내지 제4항은 특허청구범위에 기재된 바를 요지로 하는 것으로 한 쪽 말단에 전위효소 인식부위를 갖고 다른 쪽 말단에 이와 역상보적인 전위효소 인식부위를 가지며, loxP 부위와 선별마커를 갖는 트랜스포존에 관한 것을 특징으로 하고 있으나,

상기 D1에 양 말단에 전위효소 인식부위를 갖고 loxP 부위와 선별마커로서 CmR 유전자를 포함하는 트랜스포존에 관한 발명이 개시되어 있고, D2에 Tn5를 기초로 하여 제작한 트랜스포존에 관한 발명이 기재되어 있는 바, 선별 마커로서 KmR 유전자, GFP 유전자, CmR 유전자 등을 사용하는 것은 당업자가 용이하게 치환하여 발명할 수 있는 것으로 인정되고 비록 본원발명에서 유전자를 서열로서 한정하고 있으나 각 유전자의 서열이 공지되어 있으므로 본원발명의 상기 청구항들은 당업자가 D1 및 D2에 기재된 발명으로 부터 용이하게 발명할 수 있는 것으로 인정되는 바, PCT조약 제33조(3)항의 규정에 의거하여 그 진보성을 인정할 수 없습니다. 끝.